

ABSTRACT

A dehydrogenation catalyst includes an organometallic pincer complex bonded to a mesoporous inorganic oxide support, the organometallic pincer complex possessing catalytic activity for alkyl group dehydrogenation. The pincer complex includes at least one element selected from Group VIII or Group IB of the Periodic Table of the elements, and at least one element selected from Group VA of the Periodic Table of the elements in each of two molecular arms, the Group VIII or Group IB element being bonded to each of the Group VA elements. The catalyst is advantageously employed in conjunction with catalytic distillation to permit the dehydrogenation of organic compounds at lower temperatures and at lower cost than conventional methods.